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INTERNATIONAL SEARCH REPORT International application No. PCT/US02/39425		A. CLASSIFICATION OF SUBJECT MATTER According to International Patent Classification (IPC) or to both national classification and IPC US CL : 166/207,208,382 IPC(7) : E21B 23/00		B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 166/207,208,382,384 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		C. DOCUMENTS CONSIDERED TO BE RELEVANT	
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.					
X	US 4,601,343 A (Lindsey, Jr. et al.) 22 July 1986 (22.07.1986), Figures 1 and 2.	1,3,5,7	9	1,7,8			
Y							
X	US 4,942,925 A (Thernig) 24 July, 1990 (24.07.1990), Figure 3.	1,7,8	9				
Y							
X	US 4,856,592 A (Van Bilderbeek et al.) 15 August 1989 (15.08.1989), Figure 4	1,7,8					
Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex. <input type="checkbox"/>							
Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone in combination with one or more other documents, such combination being obvious to a person skilled in the art "Z" document member of the same patent family							
Date of the actual completion of the international search 16 May 2003 (16.05.2003)		Date of mailing of the international search report 28 MAY 2004					
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